



Inspired Cycle Engineering Ltd

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I C E B 1



**STEP-BY-STEP
ASSEMBLY INSTRUCTIONS
and
OWNERS MANUAL**

1.0 Introduction.

Congratulations on being a new ICE B1 owner. You have purchased one of the finest, most refined recumbent bicycle available today; we hope it brings you many years of enjoyment.

This manual has been written to help you set up and use your bike. Recumbent bikes may be a little different from the cycles you are familiar with, so please take a moment to read through this document. You will find the latest version of this manual in a download-able PDF format on our website.

Throughout the manual, we have included some Tips, which have been learned from over 20 years of experience building cycles. They are well worth taking special note of.

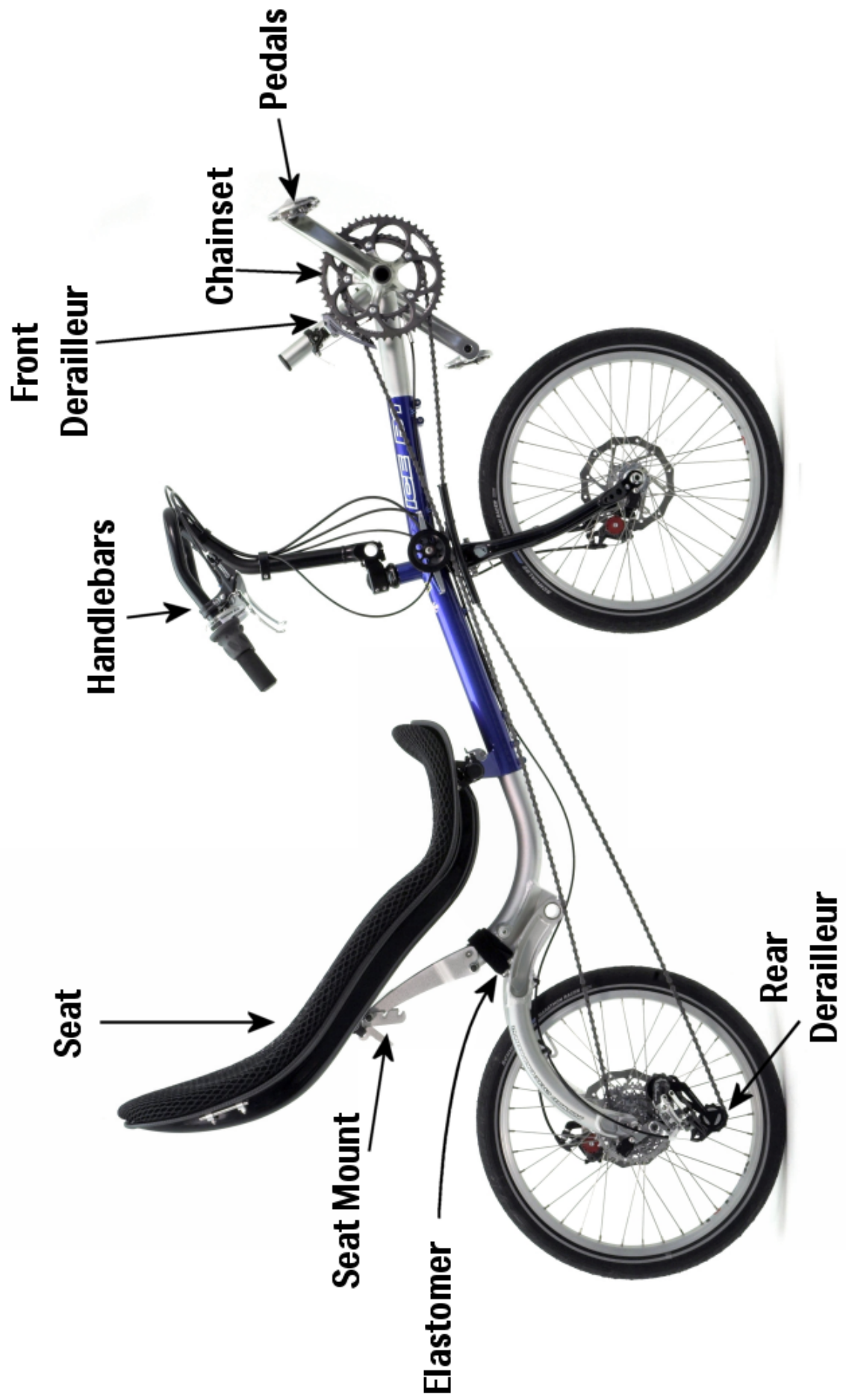
We hope you enjoy owning and riding your ICE B1 as much as we like making these great machines.

The ICE team

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1.1 Overview



2.0 Assembling your ICE B1

Assembly tools required:

3mm Hex Key
4mm Hex Key
5mm Hex Key
6mm Hex Key
8mm Hex Key
T25 torx Key
Cable cutter

Bicycle pump
8mm wrench
10mm wrench
15mm wrench
Chain link remover
Sharp knife
Small screwdriver



TIP – You will find it much easier to assemble the bike if you can work on a bench or a table at waist height; this avoids too much bending down. If you have to work on the ground, put down some newspaper to avoid the chain, which is protected by grease, from picking up dirt

Your bike has been assembled at our works and then partially disassembled and wrapped for safe and economic shipment. First of all, open the box, unwrap and lay out the pieces.

You should have all the items in the enclosed packing list, as well as any accessories you have ordered.

Assembling your bike is quite simple, even if you have never done any bicycle assembly/work before. If you're uncertain about the work, any decent bike shop will be able to follow these instructions to assemble it for you. It is a fairly short job to put your bike together, but don't be tempted to rush through;

When assembling your bike, please refer to the table in the appendix for the proper tightening torques for all fasteners. Do not over-tighten.

Adjusting and Closing Quick-releases



Open



Closed

Quick-releases are used in a number of places on your bike; it is important that they are tightened correctly. A quick-release that isn't fully and properly closed can result in parts coming loose or moving while riding. This could cause a serious accident.

A quick-release system consists of two basic parts: a lever that provides the clamping force and an adjusting nut that alters the clamping tension.

With the part you are clamping located properly, adjust the quick-release by opening it, holding both ends and turning one clockwise until, when you close the lever, you feel some resistance. At this point, try to close the lever fully. The adjustment is correct when you can fully close the lever, but with some effort (the lever should leave its impression in the palm of your hand). If you can only close the lever part way, open it, unscrew the adjusting nut slightly and try again. If it closes too easily, tighten it up a tiny bit and try again. Do not try to tighten the quick-release by winding the lever around; it will not tighten enough to be safe.

Right..... let's begin assembly!

2.1 Unpacking

Carefully unpack the contents of the box and inspect for any damage that may have occurred during shipping.

You should be able to unpack your bike without resorting to a knife; if you use one, be careful not to cut through the parts or to mark the paintwork. Have a good look at the various packages and familiarize yourself with the various parts. In addition to the main components shown below, there are other small packages of parts. Don't open them just yet; leave them sealed until you need them.



Main frame with assembled
rear section, and
handlebars



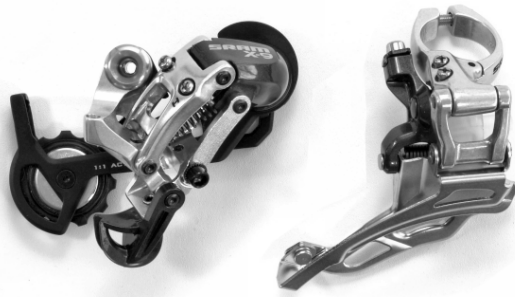
Chainset



Front Boom



Front Wheel and
Rear Wheel



Rear and Front Derailleurs



Brake Rotors and Chain



Seat Mount
and fixing clips and quick
releases



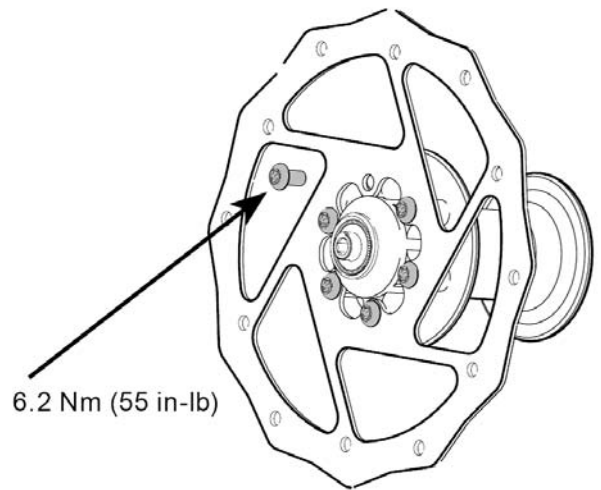
Seat Cover and Frame
(mesh seat models)



Seat and Cover
(hard-shell seat models)

2.2 Fit the brake rotors and wheels

First, the disc brake rotors must be mounted on the hub. Place the disc rotor on the hub mounting surface. Be sure that the arrow on the disc is pointing in the same direction of the forward wheel rotation (the rotor is mounted on the left side of the front wheel. Using a Torx T25 driver, install then tighten the bolts to a torque of 6-7 Nm (4.5-5 ft-lbs). Note: the bolts have what appears to be paint on their threads. This is threadlocking adhesive, and it must not be removed. If you remove and replace the rotor bolts, they must be held in place with Loctite 243 Threadlocker or equivalent.



Unclip the quick-release from the spokes of the front wheel and thread it through the centre of the axle. The lever should be on the same side as the brake disc. Slip the front wheel into the fork, and tighten the quick release. Be certain that the wheel is sitting fully into the dropouts, as this can affect the brake adjustment if it isn't.

Unclip the quick-release from the spokes of the rear wheel and thread it through the centre of the axle. The lever should be on the side opposite the gears, on the same side as the brake disc. Fit the rear wheel to the rear swingarm. You may find this easier if the Velcro restraining strap on the swingarm is fastened around the rear section main tube.

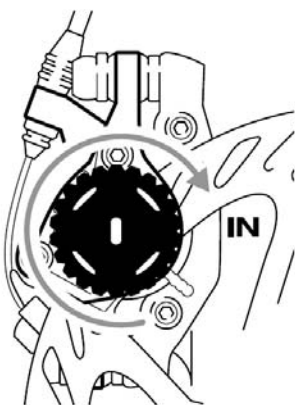
2.3 Adjusting the disc brakes.

First, hook the Brake cables into the brake levers and connect the inner cable to the caliper actuation arm. The brake calipers are already installed on the front and rear of your bicycle.

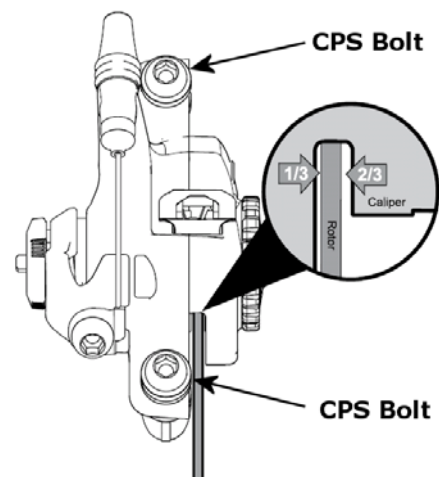
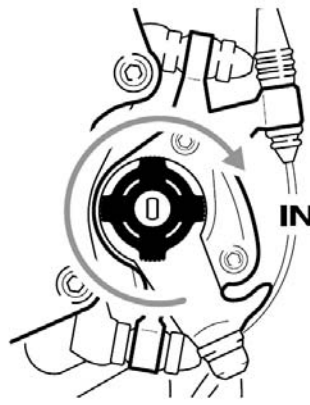
To adjust the calipers:

- To align the caliper, first turn the inboard (closest to the wheel) adjusting knob clockwise until it pushes the rotor into the position shown. Note that the rotor should not be centred between the walls of the caliper body.
- Turn the outboard pad adjustment knob until it is firmly squeezing the rotor against the inboard pad.
- The rotor should be offset to the outboard side of the rotor slot. The ideal ratio is 1/3 to 2/3.
- Tighten the two CPS bolts to the specified torque (10Nm)
- Turn both pad adjustment knobs counter clockwise until the pads clear the rotor (approx. 2 or 3 clicks), and check that the wheels spin freely (without dragging)

Inboard pad adjustment



Outboard pad adjustment



Now sit down and read the instruction booklet that came with your brakes.

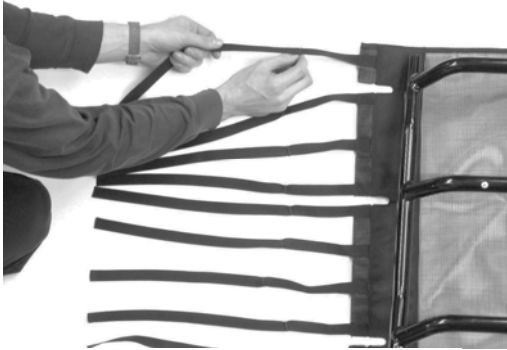


Warning: If you are not confident of installing your brakes correctly, we strongly recommended that you have a competent cycle mechanic install your disc brake system.

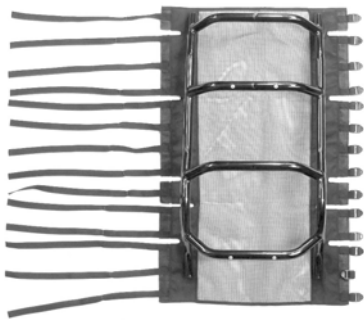
2.4a Assembling the seat – mesh seat



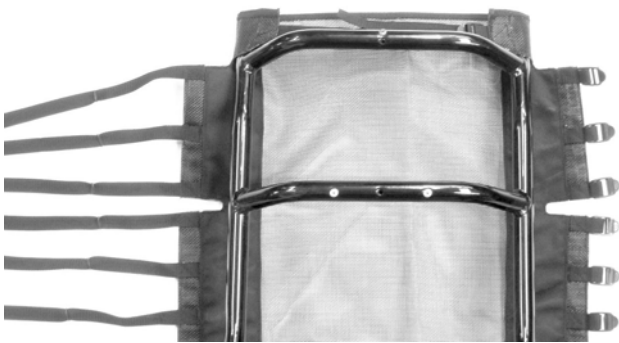
Find the seat frame and the bag with the seat cover in it. Unfold the cover and identify which is the top, the bottom, the front and the back. The top can be identified by the cut-out just below a single strap. The front can be identified by the wide smooth strips of fabric running down the length of the cover, these should end up on the inside touching a frame.



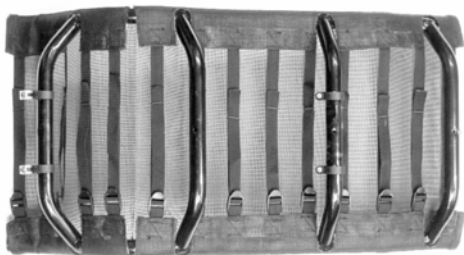
Before you begin assembly, locate the O-rings in the cover pack. Each O-ring needs to be slipped onto a strap on the cover, and pushed 8" (200mm) or more down the strap. These O-rings are used to hold down the loose tails of the straps after the seat has been assembled.



Aligning the top of the cover with the top of the seat frame, place the back of the cover against the frame.



Thread the top strap through the top buckle, and pull snug. Thread the next strap down through its corresponding buckle and pull snug. Make sure the seat cover is centred on the seat frame and the top of the cover is not too high or low. Work your way down the seat frame, fastening up the straps snugly as you go.



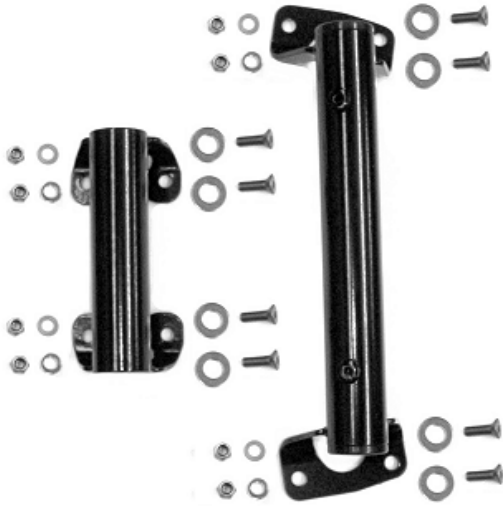
Tight

Loose

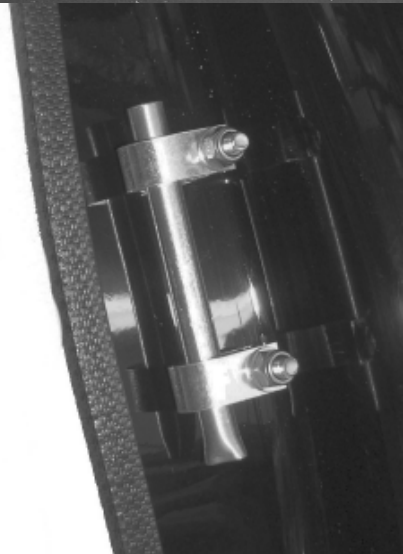
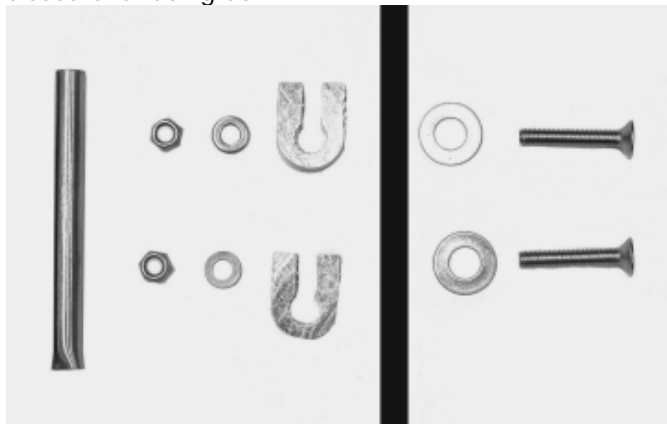
When you reach the bottom, check the cover for a smooth, symmetrical fit. When you are happy with the appearance of the seat, tighten the bottom 5 straps so they are tight. If you're got the optional seat foam, push it between the seat bottom and the 5 bottom straps before tightening. The rest of the straps can be adjusted to your preference after you sit on the bike. A good starting point is to slack off each strap in turn, and retighten, pulling the strap gently between your thumb and forefinger. Be careful about over-tightening the straps on the back of the seat; too loose is more comfortable than too tight. When all the straps are adjusted, tuck the loose tails into the O-rings so they don't flap about.

2.4b Assembling the seat – hard-shell seat

The hard-shell seat is supplied with 2 seat mounting brackets, which have to be fastened to the seat. The lower bracket is the wider one, and fastens underneath through the pre-drilled holes. The upper bracket is narrower, and should be mounted in the lower position. The upper position should not be used.

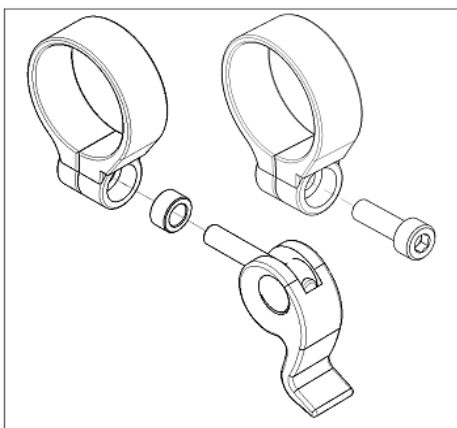


The flag mount bracket consists of 2 metal clips and a short length of stainless steel tubing with one end partially closed. The flag mount is positioned on the back of the seat as shown in the photograph, with the closed end facing down.



To install the breathable cover, remove the protection from the Double Faced Tape and stick the cover to the seat.

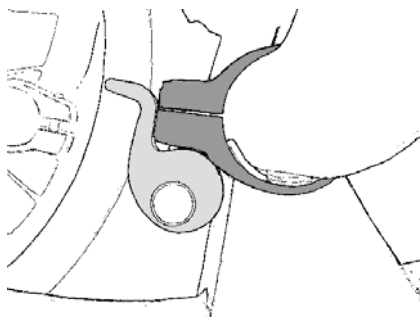
2.5 Fit the seat



The seat is provided with 4 plastic SP-6 clamps. Two of these clamps go around the bottom seat rail, and the other 2 go around the top rail on the hard-shell seat or the 3rd rail (counting from the bottom) on the mesh seat.

The 2 clips that go around the bottom rail are provided with quick-release clamps. Place the clips on the bottom rail as shown in the picture below, and then screw the quick-release into the clip. Do not forget the small plastic spacer; the quick-release will not work reliably without it.

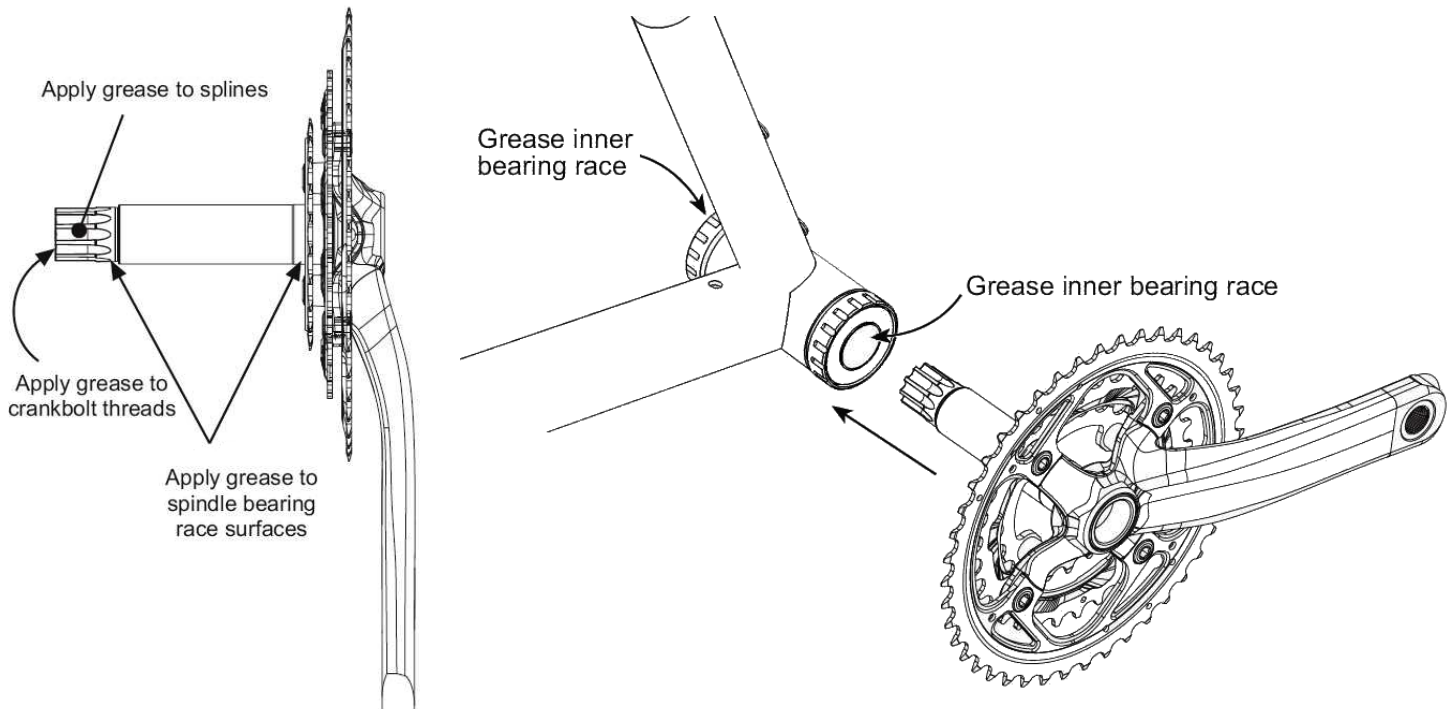
The 2 clips that go on the upper rail are provided with M5 fasteners; quick-releases are not necessary as the seat mount is held to the frame with a quick-release. Clip the SP-6 clamps to the rail and thread the bolts into place.



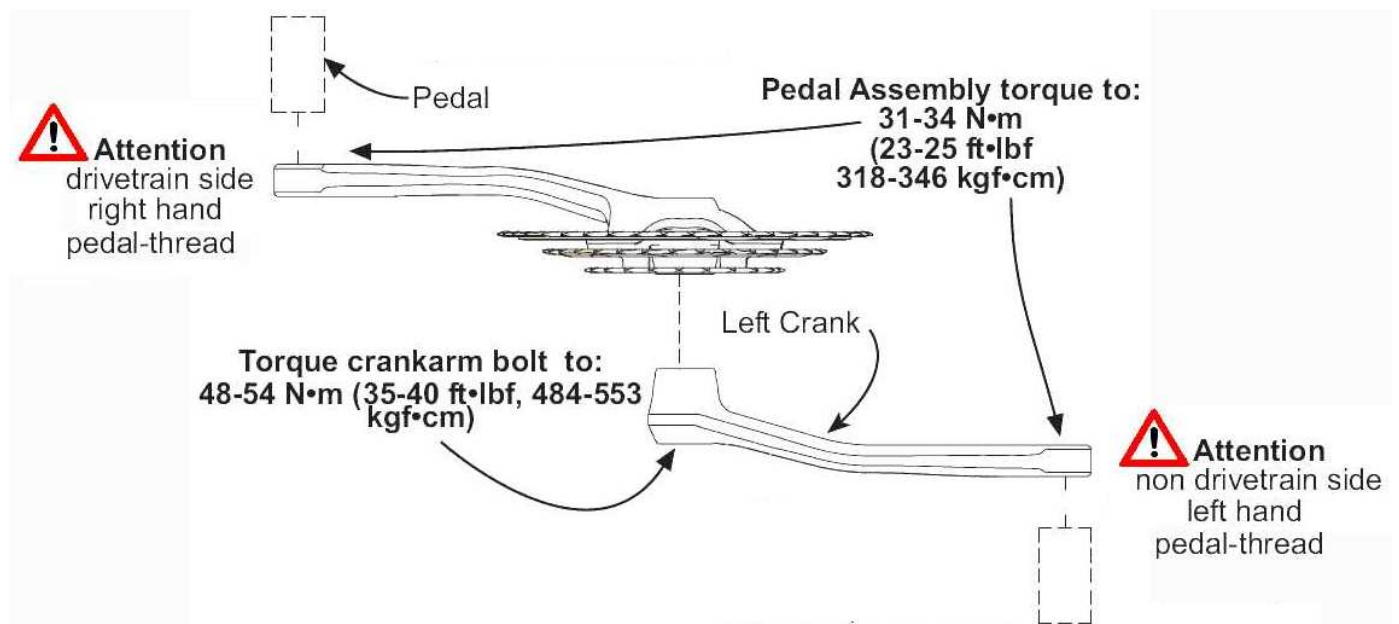
Set the 5 position upper seat mount in the lowest position (see photo). There is a quick-release skewer that goes through the front hole on the top of the rear section. Place the seat onto the bike and fasten in place with the 4 plastic clips supplied (quick-release clips on the bottom, and bolted clips on the top) and then tighten the 2 lower quick-releases. Tighten the upper seat mount quick-release, and then tighten the 2 upper plastic clip bolts.

2.6 Fit the chainset

You now need to install the left and right sides of the chainset. Your bike is supplied with the bottom bracket already installed. It is every important to follow these instructions exactly. If the chainset is not installed correctly, it will develop play and annoying movement soon after being put into service.



Grease the inner bearing races as shown in the diagram. Grease is good... don't be afraid of using too much. Slide the right crankarm and spindle assembly through the bottom bracket until the left side splines come through the left bottom bracket cup, and the spindle stops. There will be a gap of about 3mm between the right crankarm and the bottom bracket.



Assemble the left crankarm onto the bottom bracket spindle using an 8mm hex key and torque as shown. The left crank arm will press against the bottom bracket with no gap. Check the assembly for play by pulling the crankarm away from the boom, alternating back and forth. If the crank moves, tighten crankarm bolt until no play is detected. If maximum torque has been reached, remove the crankarm from the spindle, apply additional grease, and repeat the installation. It may take several installations to eliminate all play.



Note: the seals on the bottom bracket are designed to prevent contamination and therefore must rub against their sealing surfaces. New seals will feel stiff when they are first installed. This is normal. With use the seals will wear in and loosen up.



Warning: if you do not follow the instructions for installing the bottom bracket exactly, then within a few miles the bottom bracket will develop play. It will feel much the same as a bottom bracket with a bad or worn bearing. If this happens soon after you begin to use the bike, retighten the bottom bracket.

2.7 Fit the pedals

(Your own if not ordered from us) – **Note:** the pedal threads are handed. The right hand pedal tightens in the normal direction; the left-hand pedal has a left hand thread, and tightens in the opposite direction to normal. Tighten the pedals to the torque shown in section 2.10

2.8 Adjust the seat angle

Sit on the bike (see section 5.1) and decide whether the seat angle suits you. The seat can be set more upright (it was set to maximum recline in section 2.8) by simply opening the seat mount quick-release, sliding the seat mount off the quick-release, and slotting it back over using a different set of slots. Please refer to section 3.4. You may find a more upright position is initially better until you learn how the bike handles.



Do not use the handlebars to pull yourself out of the seat; they are not meant for this purpose. Under normal use the handlebars will not slip in their clamps, they will however move if subjected to an abnormal force.

There is also no need to pull on the handlebars when riding. The bike is easily steered with a light grip of the fingers.

2.9 Set the front boom

Set the leg length by sitting on the bike and placing your heel on the pedal. Adjust the boom so that your leg is almost straight when the pedal is at its furthest away from you. Set the front boom upright (by eye), and then tighten the 2 clamp bolts.

Check the boom is not extended past its minimum insertion length. The end of the boom should not be visible in the slot in the underside of the frame.

Obviously, this is a picture of a trike, however, the principle is the same.

As you won't have the benefit of 3 wheels, you may need someone to help hold you and the bike upright while you check the boom length. If you are doing this on your own, try leaning against a wall while checking the length. It's important that you are leaning back in the seat in a proper riding position when you are checking this measurement.



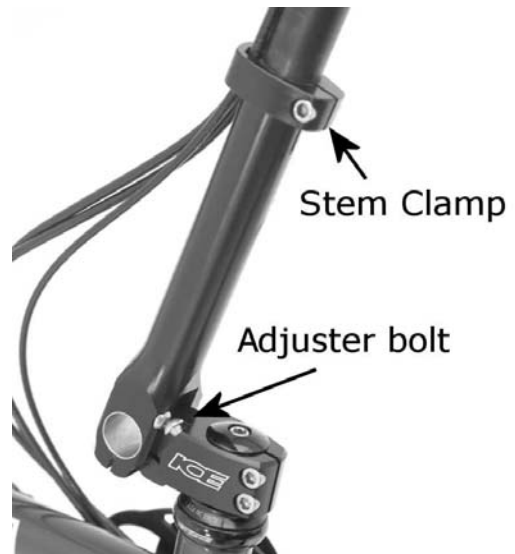
2.10 Set the handlebars

The handlebars on your bike may need a small amount of adjustment. The main reason for adjusting the handlebars is to ensure that you are comfortable and have adequate room for your knees when pedalling. There is no 'correct' position, the best position is one that feels right to you.

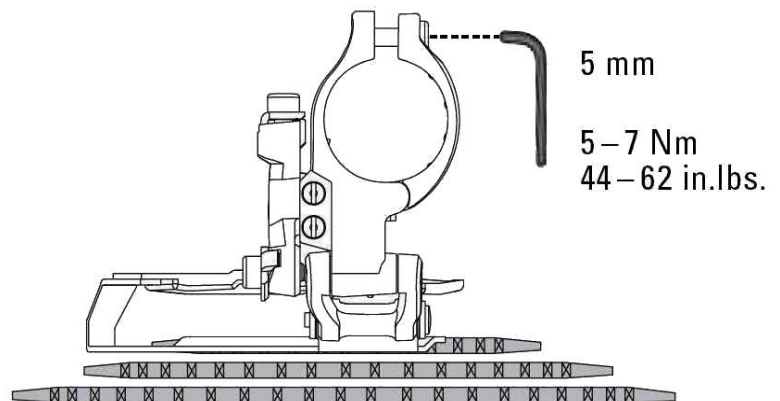
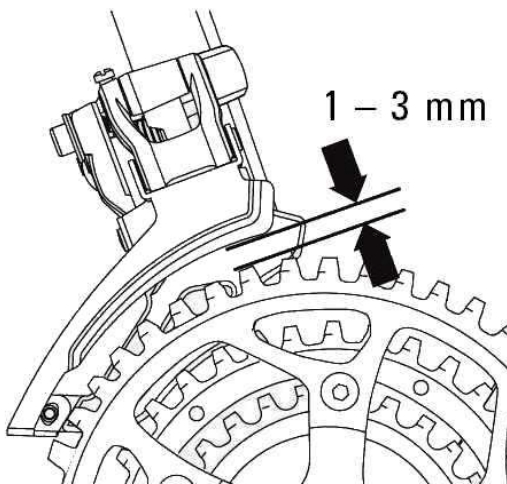
The usual procedure for adjustment is:

- Adjust the handlebar's position forward and back. Sit on the bike. This position is changed by adjusting the bolt located at the base of the stem at the pivot. Moving the bolt-stop in and out positions the handlebars to stop in a comfortable position from your body.
- Adjust the height of the handlebars. This is done by loosening the clamp in the middle of the stem and raising or lowering the bars to a comfortable position. Check that you have adequate clearance between your knees and the handlebars and that your legs do not interfere with the steering.
- Adjust the angle of the handlebars. This is done by loosening the handlebars where they are held to the stem, and then rotating them until the angle feels comfortable. Your hands should fall naturally to the handlebars without undue twisting of your wrists. Don't worry about the angle of the brake levers or shifters at this time. Re-check the handlebar height and position.

When you are happy with the adjustment of the handlebars, loosen the brake levers and shifters and adjust their position on the handlebars. Usually some rotation is required. Make sure you can grip the brake levers correctly, and that you can see the gear numbers on the shifters. Tighten everything up.



2.11 Install the front derailleur



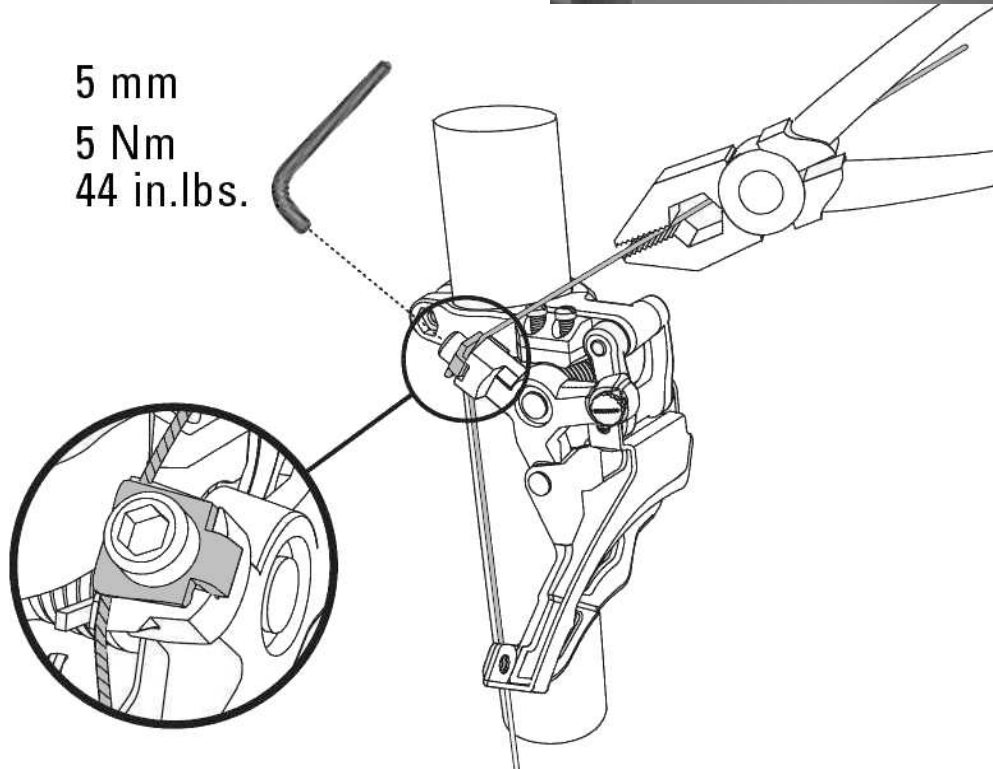
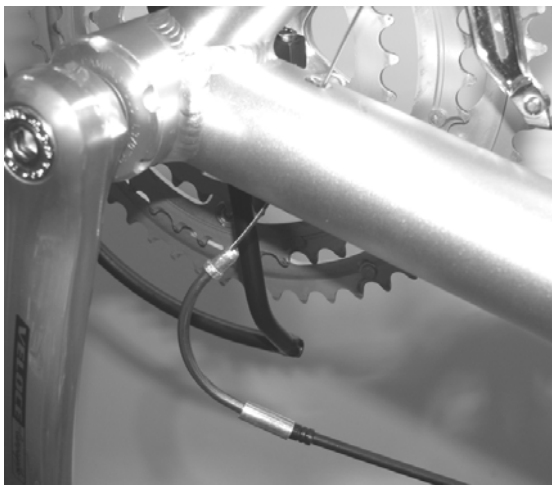
Next, the front derailleur needs to be installed. Its position is determined by the size of outer chainring. Attach the front derailleur to the seat tube, and tighten the supplied M5 bolt lightly so you can adjust the position of the derailleur. Adjust the position along the seat tube so that clearance between the front derailleur cage and the large chainring is 1 – 3 mm.

At the same time, align the front derailleur cage outer plate to be parallel with the chainrings.

Tighten the 5 mm hex clamp bolt to 5 – 7 Nm (44 –62 in.lbs.).

Check that the front derailleur cage is positioned over the smallest chainring. Place the shifter in gear position '1'. Turn the front shifter barrel adjuster clockwise fully into the shifter, then turn counter-clockwise 1 full turn.

Thread the front gear cable (left hand shifter) inner wire through the cable guide tube (chromed noodle). Pass the cable guide up through the hole on the underside of the front boom, so that it just pokes out of the hole on the top face of the boom, checking that it is seated correctly.



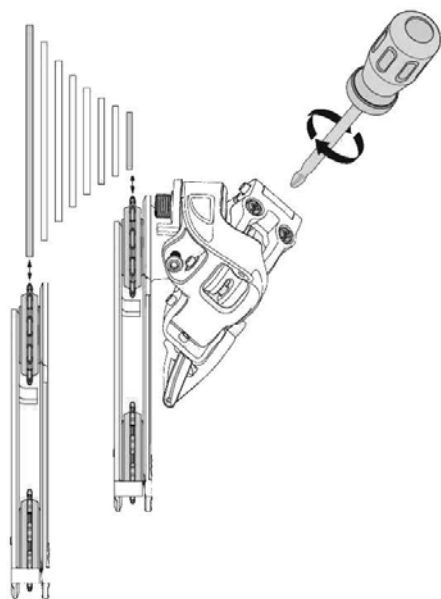
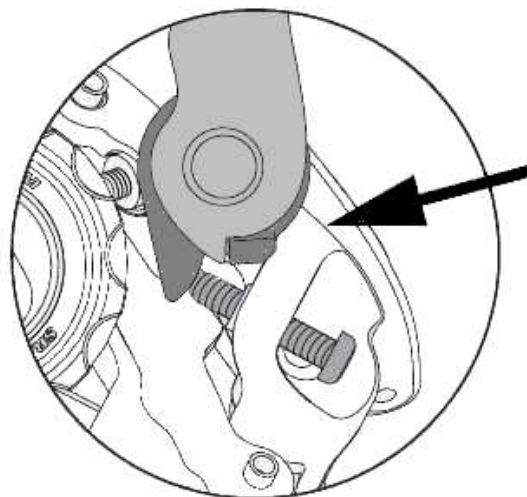
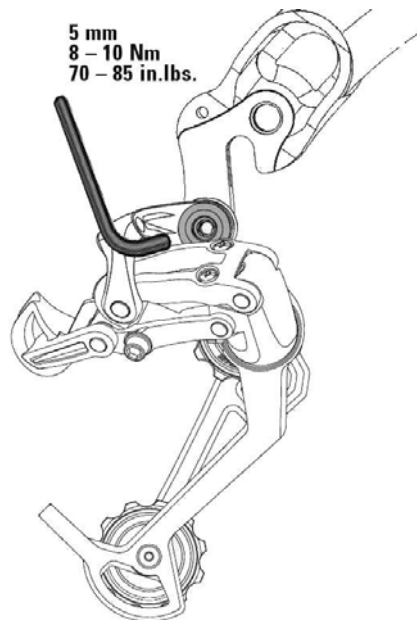
Pull through any slack cable. While holding the cable taut, turn the shifter through its range of movement to check the cable moves smoothly and that the cable is properly seated inside the shifter. Run the cable under the cable anchor washer and hold taut. Tighten the 5 mm hex cable anchor bolt to 5 Nm (44 in.lbs.). Be careful not to crush or deform the cable.



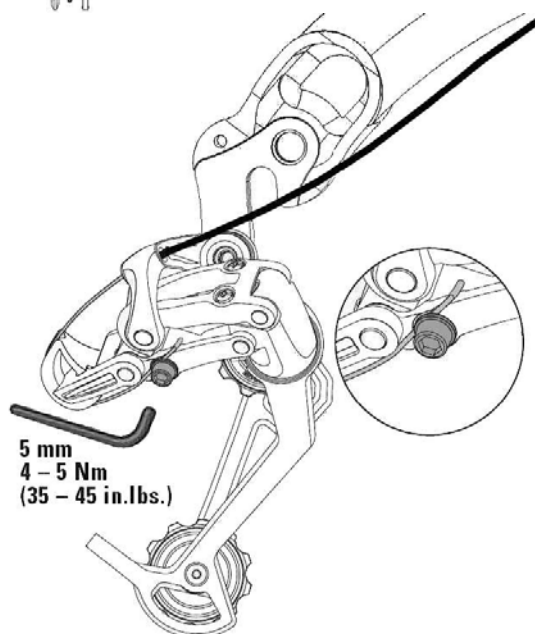
TIP - Do not trim any cables until you are happy with the various settings of front boom and gears. The loose end of the cable can be tightly coiled so that it is out of the way.

2.12 Install and connect the rear derailleur

Find the bag with the rear derailleur parts in it. Fit the rear derailleur to the rear dropout using a 5mm hex key, making sure the B-tension washer tab / b-adjust screw is clear of the rear derailleur dropout tab. Tighten the 5 mm hex hanger bolt to 70 – 85 in.lbs. (8 – 10 Nm).



View the rear derailleur and pulleys from behind the rear wheel. Turn the limit screw marked 'H' on the outer link of the derailleur to align the upper guide pulley centre with the outboard edge of the smallest cog. Then, push the rear derailleur towards the larger cogs by hand. Align the upper guide pulley under the largest cog, centre to centre, by turning the limit screw marked 'L' on the outer link. The final adjustment will take place once the chain is installed.



Fit the long length of gear outer casing into the rear derailleur.

Check that the rear derailleur is in the smallest cog position. Rotate the rear shifter to the '9' position. Turn the rear shifter barrel adjust clockwise fully into the shifter, then back it off 1 full turn.

Thread the rear derailleur cable through the rear derailleur housing stop and through the cable guide on the fin. Pull the cable tight and position it under the cable anchor washer. Tighten the 5 mm hex cable anchor bolt to 35 – 45 in.lbs. (4 – 5 Nm).



TIP - Do not trim any cables until you are happy with the various settings of front boom and gears. The loose end of the cable can be tightly coiled so that it is out of the way.

2.13 Fit the chain

Find the chaintube and pulley assembly, and pulley bolt with 3 washers. Place the bolt through the pulley, followed by the 3 washers, and then put the bolt through the hole in the middle of the pulley plate (the black plate holding all the chaintubes together). Mount the chain tube assembly and pulley onto the frame. Ensure that the cables run behind the pulley plate as shown in the photo below.

Twist the right hand rear shifter to the "1" position so that the rear derailleur lines up with the largest rear sprocket. Twist the left hand front shifter to the "H" position so that the front derailleur lines up with the largest front chainring.



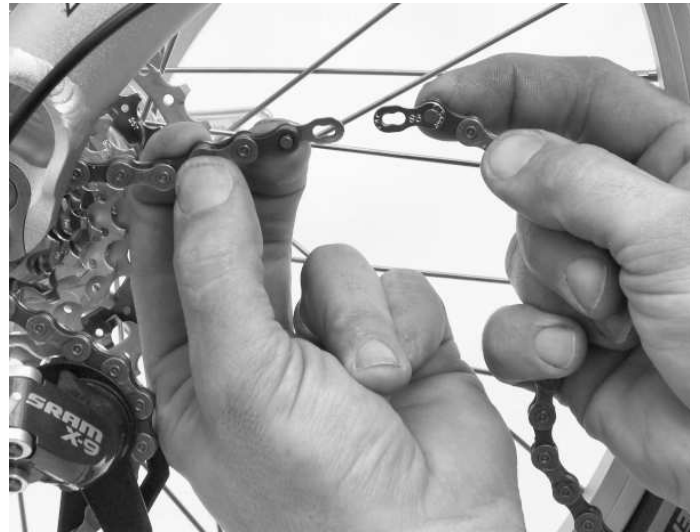
Standard pulley set up



Full Chain Tube set up



TIP - make sure the chain is correctly routed through the rear derailleur cage and goes the correct side of the tab on the derailleur cage between the two jockey wheels.

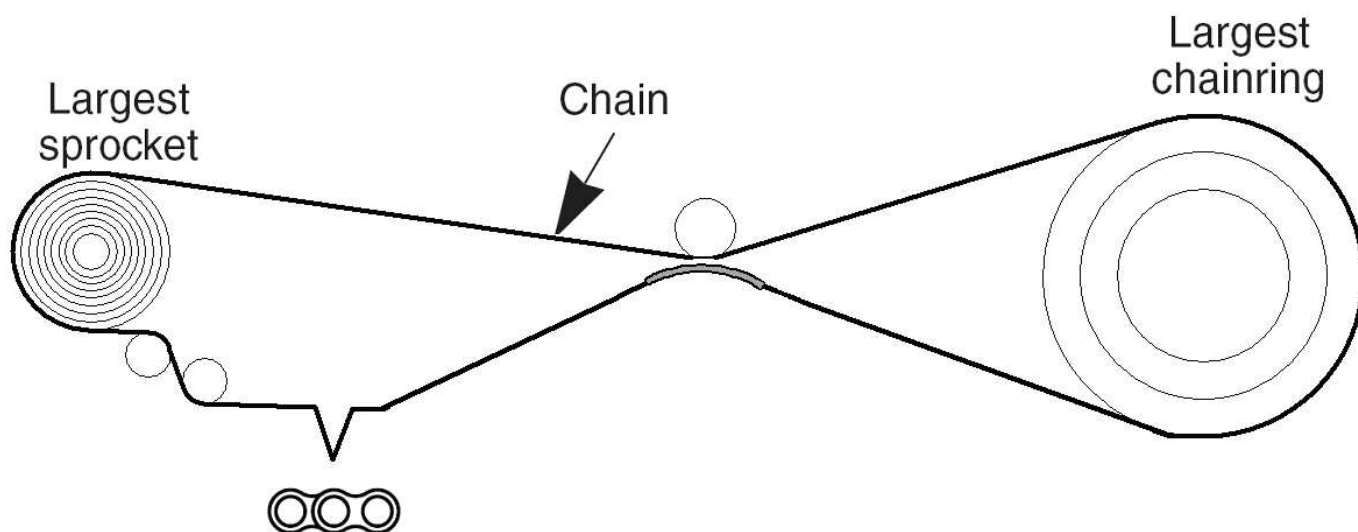


At the front of the bike, pass the chain under the idler pulley, then through the front derailleur cage, around the large chain ring. Pass it through the short length of chain tube under the pulley.

Now, checking that the chain is not twisted inside the chain tube, thread the bottom chain up through the derailleur and over the largest cog of the cassette. Connect the bottom chain to the top chain using the quick connect links supplied. Make sure that the chain is not twisted.



Now check that the length of the chain is correct. Set the chain to the correct length by removing a section of chain from between the rear derailleur and the lower chain tube with a chain rivet tool as below. Move the chain until one of the connecting links can be seen between the rear derailleur and the lower chain tube. Open the link and then work out how much chain to remove.



Add 2 links (with the chain on both the largest sprocket and the largest chainring). This should leave just enough slack so that the rear derailleur jockey wheels are pointing forward but so that they can still move up a fraction. Then check that there is not too much slack when using the smallest chain ring and smallest cassette sprocket.

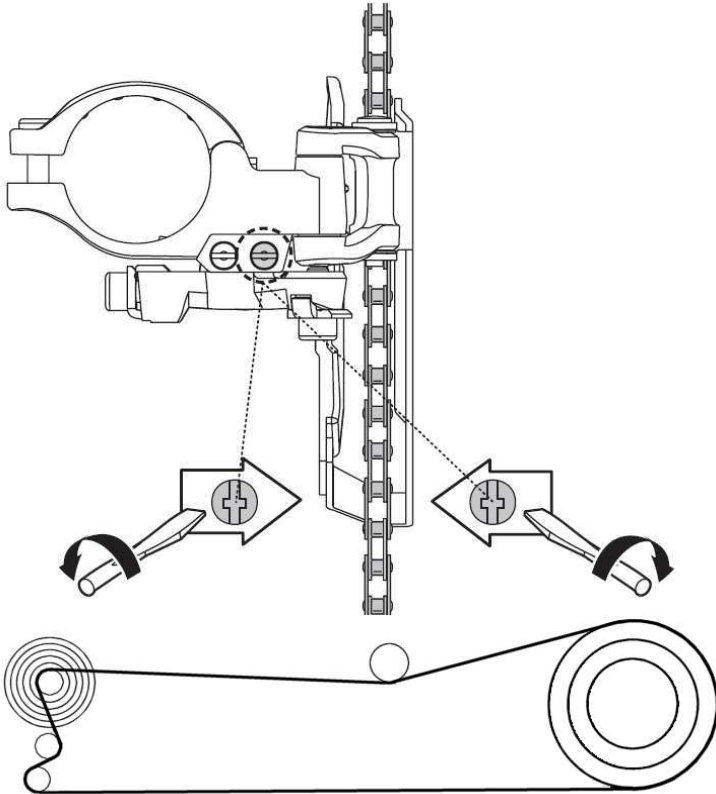


TIP – get an extra pair of hands to help with this. Make sure that any links you alter with the chain link remover are not stiff on the rivets. If in doubt, remove fewer links than you think as removing links is easier than riveting links back in. Use the quick disconnect link to open the chain and then punch out links and quick connect back together.

When you've finished adjusting the chain length, check at the pulley plate where the chain enters and leaves the chain tubes. The plastic clips should be adjusted vertically so the chain is running centrally where it enters and exits the chaintubes. This is also the position where the chain runs at it quietest.

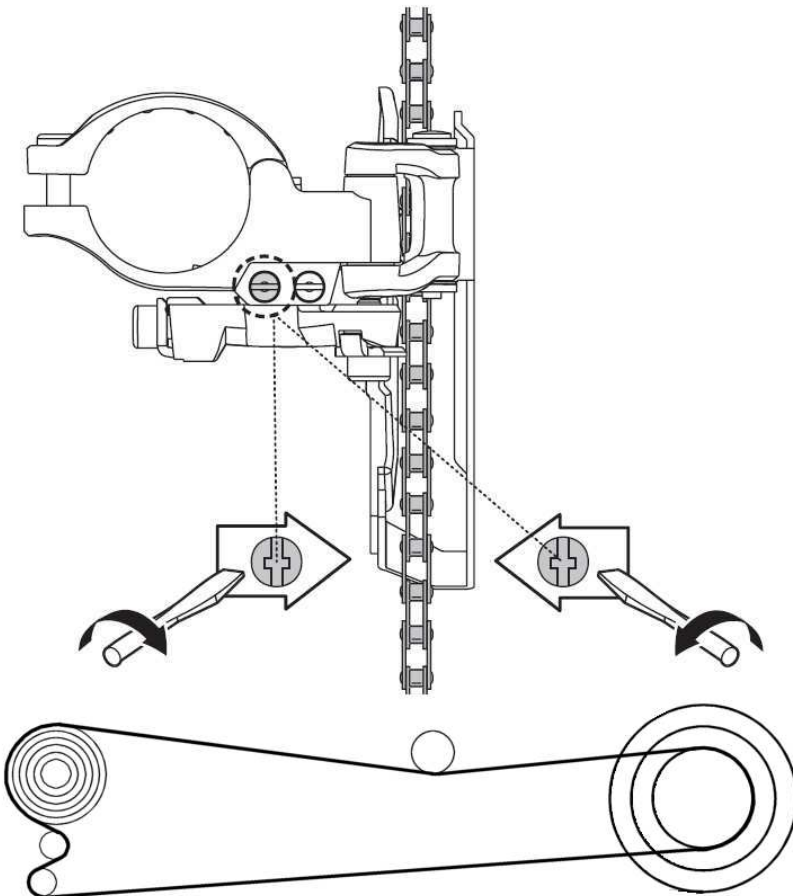
2.13 Check the gear shifting

While pedaling, shift the chain up and down the chainrings several times to take out initial slack in the cables. Any slack can be removed by adjusting the barrel adjuster on the shifters.



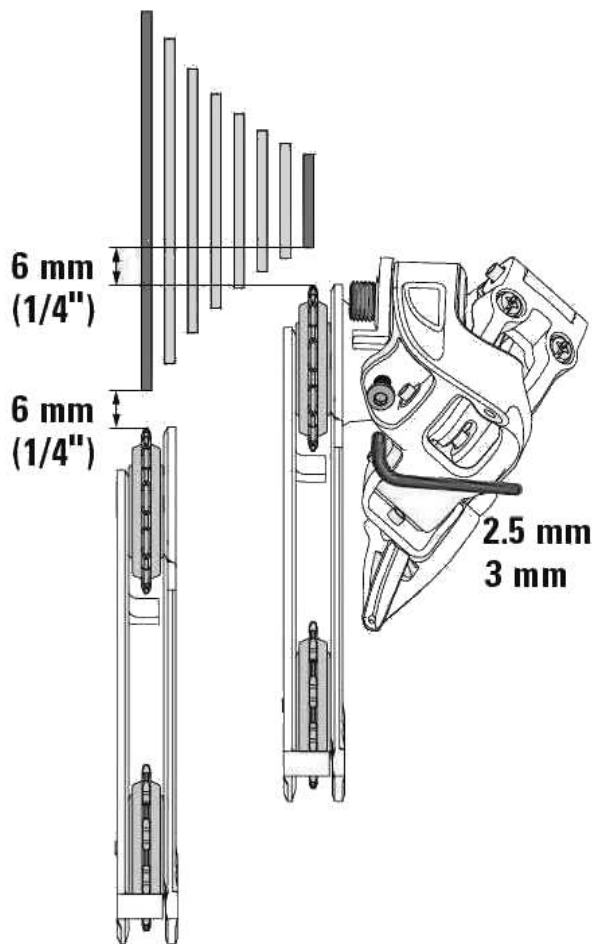
Adjust the Front mech high limit screw

Set the chain to the smallest rear cog and the largest front chainring. Adjust the high limit screw so that clearance between the front derailleur cage outer plate and the chain is 0 – 0.5 mm.



Adjust the Front mech low limit screw

Place the chain on the largest rear cog and the smallest front chainring. Adjust the low limit screw so that the chain is positioned close to the inner cage plate without actually touching it. If the front mech will not move to this position, it may be the cable that is holding it. Loosen the cable clamp, adjust the front mech, and then re-clamp the cable



Rear mech 'B' adjust

Shift chain to the small chain ring. While turning the crank, push the rear derailleur inboard by hand to the largest cog. Hold the rear derailleur in this position while making the following adjustment. Using a 2,5 / 3 mm hex wrench to turn the b-adjust screw until the chain gap equals approximately 6 mm (1/4") from tip of the cog to tip of upper guide pulley. While pedalling, release the derailleur and check the chain gap throughout the cassette.

Setting the chain gap at this point of your installation may be considered a rough estimate. Precision index shifting may require small changes of the b-adjustment while setting the proper cable tension. Do not use the b-adjust screw to adjust the rear derailleur to act as a chain-tensioning device or to prevent chain suck. This increases the chain gap causing poor shifting performance.

Shift the chain to the smallest cog. While turning the pedals, move the shifter up 1 click, to the "8" position. If the chain hesitates or does not shift to the second cog, increase the cable tension by turning the shifter barrel adjuster counter clockwise. If the chain shifts beyond the second cog, decrease the cable tension by turning the shifter barrel adjuster clockwise.

Repeat the two former steps until shifting and cable tension is accurate.

It is not enough that the chain should run quietly in each gear, it should also move smartly from one sprocket to the next, without clattering or jamming.

Now check for smooth changing up through the range, checking one pair of sprockets at a time (9-8, 8-7, etc.) Make any minor adjustments by turning the shifter barrel adjuster. Finally, check that the chain cannot jump off the cassette, either on the inside into the spokes, or on the outside onto the dropout. This is adjusted using the high and low limits screws as shown in section 2.16

Cut the cable off leaving about 1.5" (40mm) past the cable clamp, and crimp the cable end cover onto the cable end.

2.14 Reflectors and bell

Reflectors and a bell are supplied with your bike. The bell can be mounted anywhere on the handlebars where it can be reached easily and doesn't interfere with steering the bike. The reflectors have brackets which allow the front reflector to be mounted on the front derailleur post, and the rear reflector to be mounted on the top rail of the seat.

2.15 Check nuts and bolts

Generally, check all nuts, bolts and quick-releases to make sure everything is tight.

3.0 Adjusting your ICE B1

Fine-tuning for leg length, seat angle, handle bar width / angle, brake lever reach, tyre pressure etc are all well worth taking time to set to your personal preference.



TIP - Experiment but always go for a reasonable (a mile or two) test ride to decide if an adjustment is right for you.

3.1 Tyre pressure

Typical tyre pressure for the standard tyres is about 70psi (4.6 bar). Do not inflate the tyres more than the maximum pressure recommended on the tyre sidewalls. You will need to experiment a bit to find the tyre pressure that suits you best. Higher pressures will allow the bike roll more easily, but will transmit more road shock to the rider. Lower pressures will feel much more comfortable, but there can be more rolling resistance and the bike can feel less connected to the ground. Also try experimenting with tyres; there are now large cruiser tyres available which can provide a comfortable ride and reasonably low rolling resistance, as well as small high-pressure racing tyres that offer very-low rolling resistance and sports-car type handling

3.2a Mesh seat cover

When new both the seat cover and the straps stretch a little, and in the first few weeks of use you may need to re-tension the seat by tightening up the straps. In time it will settle down. For maximum comfort you may need to tighten the cover more in some places than in others. In general, the base of the seat should be tight, and the back looser.

3.2b Fitting the hard-shell seat to you

The hard-shell seat is supplied with adhesive-backed foam. Try experimenting with cutting out pads and sticking them on. You should be trying to pad any spaces where you do not touch the seat. *Don't pad the pressure points*; pad around them. You can temporarily hold the pads in place with a bit of adhesive tape. Don't peel off backing of the foam sheet until you are certain of their position. The adhesive is very strong.

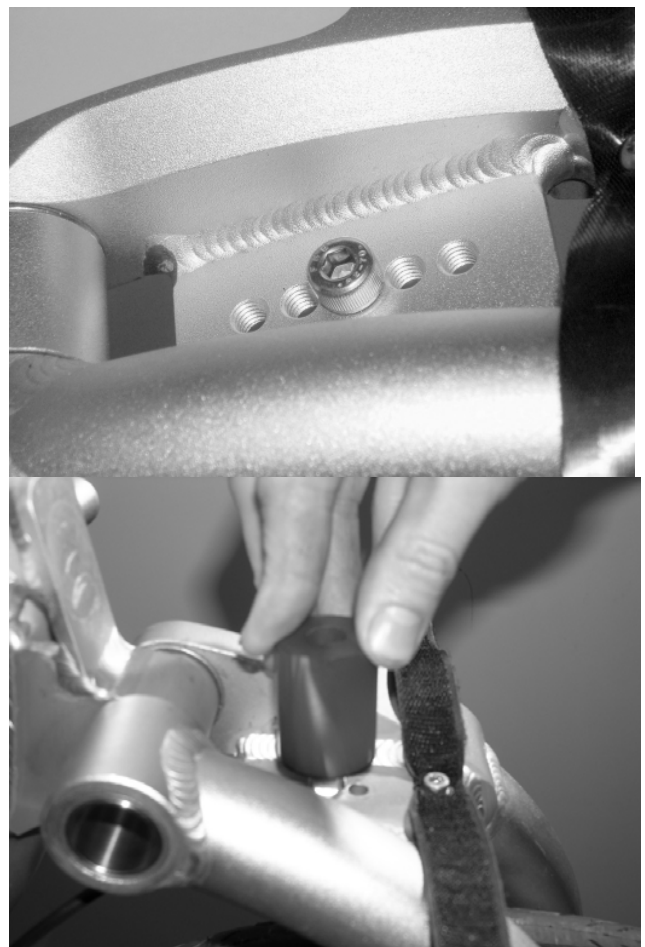
3.3 Suspension adjustment

The suspension adjusted is accomplished by the selection of elastomers and mounting positions. To adjust the suspension, remove the elastomer by pulling and twisting it off of the shock pin. Unscrew the pin and move it to the new hole. Press the elastomer into place on the pin again.

The elastomers have different compression characteristics, and you may find other combinations of elastomer hardness and pin position which suit the roads you ride on and your riding style better; it is just a matter of trying different combinations. The elastomer system is simple and small enough that you can carry a couple of elastomers in your pocket and change them when you are out on a ride.

If you carry a significant amount of luggage (perhaps you are going on a long tour), re-tune the suspension with the bike loaded; you will definitely notice the difference. It is possible to fit 2 lighter elastomers side-by-side if you find one elastomer doesn't provide the ride characteristics you want.

Elastomers will become stiffer in cold weather, and may take a couple of miles before warming up from use. In very cold weather, it would be possible to remove the elastomer and keep it warm (in your pocket) while you are away from the bike. Riding with a cold, stiff elastomer will not harm the bike or the elastomer; you just won't feel all the benefits of riding with suspension.



The rear swingarm is held in the normal position by a double-sided Velcro strap. This bolts on through the mudguard hole as shown in the picture above. The purpose of the strap is to keep the rear swingarm from dangling when the bike is picked up. To fasten, place the bike on the ground with no weight on it. Wrap one side of the Velcro strap around the curved frame tube where the corresponding Velcro strip has been placed. The other loose end of the Velcro strap is then wrapped over the first.

3.4 Seat angle adjustment

The seat has 5 positions of adjustment, and adjustment is simple and quick.

- Loosen the seat mount quick-release lever.
- If you want to make the seat more reclined set it to the slots closest to the seat cup. If you want to make the seat less reclined, then set it to the slots furthest from the seat cup.
- Re-tighten the seat mount quick-release.



3.5 Leg length

A small adjustment can be quite noticeable, just like adjusting the saddle on a conventional bike.

- Change gear to the smallest chain ring.
- Undo the two clamp bolts under the front boom. They must be loose.
- Slide the front boom in or out by twisting and pulling or pushing



TIP – It is easier to move the boom if you get a helper to sit on the bike with both brakes on.

- Check the boom is vertical by eye. It's not necessary to measure anything, if it looks upright, then it will be fine.
- Tighten the two clamp bolts under the front boom.
- If you have moved the boom by more than approximately 10mm you will need to check that you have the correct chain length (see Fitting the Chain - section 2).

3.6 Brake lever adjustment

The position of the brake lever relative to the handlebars (the 'reach') can be adjusted. It can be useful for move the lever closer to the handlebar for riders with smaller hands.

The lever has a reach adjustment screw on the underside of the lever body, between the cable entry and the handlebar clamp. Use a 2 mm hex key to adjust the screw.



4.0 ICE Optional Accessories

Instructions for many of our accessories are now packed with the accessory itself. These include:

- Mudguards
- Neck rest
- Chainring guard

If you require an additional copy of these instructions, they may be downloaded from our website at <http://www.ice.hpv.co.uk/reference/manuals.htm>

4.1 Lights.

Front lights may be fitted to the front derailleur tube utilising the optional ICE front light mount. Rear lights can be mounted on the upper seat cross-rail or on optional neck rest.

The front light mount simply bolts into place into the 2 threaded holes on the front boom. The bolts should be firmly tightened, as the end of the boom is subject to some vibration on rough roads.



4.2 Extra water bottle mount

An extra water bottle mount can be fitted to the seat frame by using the option ICE bottle cage mount and a bottle cage. Fitting instructions are included with the mounts.



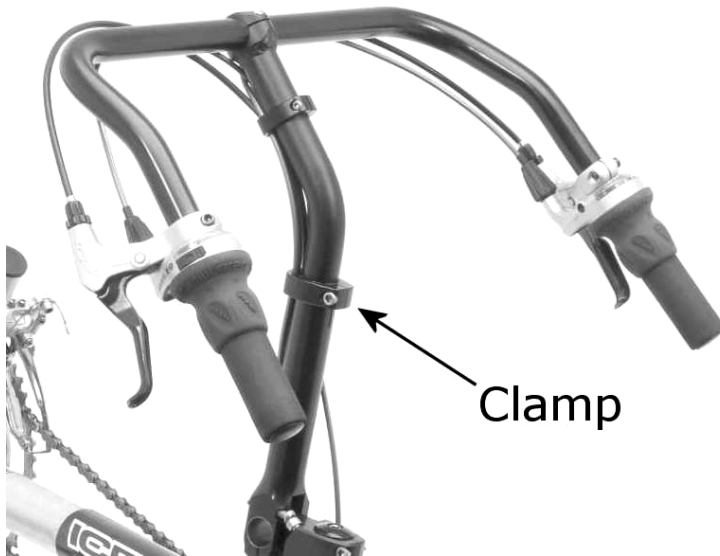
4.3 Fitting Radical bags



Radical bags are extraordinarily simple to fit. The bags are simply held the right way up (so you can read the writing in the side), and they are draped over the seat. The top strap is either wrapped around the top seat tube if you don't have a neck rest fitted (photo left), or looped over the neck rest base if it is fitted (photo lower right). Gently pull the bags until they fit neatly around the seat.



4.4 Fitting the Wrap-around Handlebars



Fitting the wrap-around handlebars in place of the standard handlebars is a simple procedure. Just remove the handlebar grips, shifter, and brake levers from the standard bars, then remove the standard bars from the stem. Slacken the stem clamp which is half way up the stem, turn the top part of the stem 180 degrees and push it down as low as it will go into the lower half. Fasten the wrap-around handlebars to the stem, and replace the brake levers, shifters, and handlebar grips.

If you have previously fitted a mirror, consider using one of our mirror mounts to place the mirror in a more convenient place on the handlebars.



4.5 Fitting a Rohloff

The left side CNC rear drop out on the standard ICE B1 models is equipped with a mounting point for the Rohloff OEM2 axle plate (Rohloff No 8227) making a tidy job of a Rohloff retrofit.



What you will need:

- A complete built rear wheel (the hub is only available as 32 hole)
- Rohloff Art Nr: 8025 SPEEDHUB 500/14 CC DB OEM Silver
- Art Nr: 8250 Chain Tensioner
- Art Nr: 8227 Axle Plate CC OEM2
- Art Nr: 8281 Brake Disc 160 mm, International standard 6 bolt fixing for Shimano.

For more information on Rohloff, please see <http://www.rohloff.de/en/home/index.html>

5.0 Riding your ICE B1

We recommend the use of 'clipless' pedals. There is more information in section 8 of this manual. They are a safe way of attaching your feet to the pedals.

5.1 Getting on and off the bike.

Getting on

Begin by standing in beside the bike and lifting your leg over the frame in the space between the handlebars and the seat. The handlebars will fold forward if you need a little more space. Now sit gently on the seat and pull the handlebars towards you until they hit the stop. **Try not to push or pull on the handle bars as you get on and off.**

Getting Off

This is much like getting on, but in reverse order. Sit forward on the seat and put your feet firmly on the ground. Push the handlebars forward if you need a bit of extra space. Stand up and swing your leg over the main frame of the bike.

5.2 Initial test ride

Start on a flat piece of road or path preferably away from traffic. Sit on the bike and make sure you know where the brakes are and that they stop you from moving. Don't clip into the pedals until you are comfortable stopping and starting the bike. Put one foot up on the pedals and start off with a confident push. Before you have ridden more than a few yards, **check the front brakes.** **MAKE SURE YOU CAN STOP!** You should do this before each ride, as well as checking your brakes for damage and wear.

Steering is very easy and natural and you will soon become unaware of the movements required. Many beginners find the bike to be 'twitchy' or unstable, but this is usually the case of the rider providing too much steering input to the handlebars. Try holding the bars lightly between your fingers and thumbs, it doesn't require a death-grip to control the bike.

Gear changing - As with any derailleur system you can only change gear when you are pedalling and moving forward. It is easier to change gear if you are not putting a lot of force on the pedals, particularly when changing from a high to a low gear. The rear derailleur is operated by the right shifter, and the front using the left shifter. You should not try to change into the lowest gear (largest rear sprocket) unless you are on the middle or lowest (smallest) chain wheel, because the chain will put strain on the rear derailleur.



TIP - Try to get into the habit of not crossing over the gears at the extremes – don't run on the biggest chain ring and the biggest rear sprocket or the smallest chain ring and the smallest rear sprocket. This will help prolong the life of the transmission. Also try to anticipate hills and change to a lower (easier) gear before you get onto the steep part of the hill hence avoiding changing gear under pressure.

Do not change gear when the bike is rolling backwards, as the chain will jam in the rear derailleur and likely damage it. When you are riding, you can make minor adjustments to the indexing of the gears using the adjusters located where the cables exit the shifters.

5.3 Stopping in a low gear

As with any bicycle it is best to get into the habit of shifting into an easier gear as you slow down to stop, so that you can pull away easily when you start again.

5.4 Relax

Whilst riding sit back and relax. **DO NOT PULL ON THE HANDLEBARS;** just hold them lightly. The bike will tend to steer itself in a straight line depending on the road surface and camber.



TIP – The steering of the bike runs on ball bearings so it is very smooth and requires minimal effort to steer. Like all recumbent bicycles, it is almost impossible to steer no-handed. This is normal and we do not recommend riding without holding at least one of the handle bars or you will not have proper control of the bike.

5.5 Cornering

Your bike is inherently very stable under normal riding conditions. Cornering at high speed can leave you susceptible to loose or irregular road surfaces, which can cause you to crash. As you gain more experience with the bike you will learn the limits to high-speed cornering.

Take care on corners which have a 'reverse camber.' Reverse camber is where the outside of the corner is lower than the inside. On a corner with reverse camber, the bike can lose grip on the road and slide out from underneath you, perhaps off the edge of the road or into the oncoming lane.

We recommend that you find a quiet smooth surfaced area (such as a car park or firm grassy field), and get a feel for handling your bike. Try turning at various speeds and radii to see how the bike handles. It is better to learn this in a quiet park than a busy street.

5.6 Handling

If you lock the back wheel, it is possible to make the back end of the bike skid around; this is the so-called 'handbrake turn'. While fun to do in a quiet car park, this maneuver can cause a loss of control, and should not be attempted around other vehicles. It can also scrub the tread off an expensive tyre in a very short time.

Heavy loads should be carried as low as possible, and as much in the middle of the bike as you can. Heavy loads mounted high on the back of the bike will affect its handling, especially at higher speeds and when cornering. Do not carry a child in a child seat over the rear wheel. Besides affecting the bike's stability, the bike will not support a child without someone sitting on it (it can fall over when you get out of the seat). For carrying children or heavy loads, we recommend towing a trailer. There are plenty of 1- and 2-wheeled trailers on the market, and they can be very heavily loaded without affecting the handling of the bike. Crash tests done in Germany show a child is much safer in a trailer than in a child seat.

5.7 Brakes

Normal braking should be done with both brake levers operated together and evenly for excellent stopping power; you will find your bike to be very stable under braking. The front brake provides most of the braking power, but the fastest way of stopping in the shortest possible distance is by using both brakes.

Brake calipers and rotors will heat up when they are used. They can get very hot, especially after a long descent, and it is possible to burn yourself if you are not careful. Do not touch them while riding or immediately after dismounting from the bicycle. Check that the brake components have been cooled down before attempting to adjust the brakes.

5.8 Hill climbing

A recumbent bike or bike tends not to climb a hill as quickly as an upright bike whose rider can get off the saddle to use his/her weight to apply extra effort. It will climb in comfort at a lower speed and in a lower gear. Try to keep your cadence up by shifting down early. You should never need to get off and push, even when carrying a heavy load. Just gear down and keep spinning until you reach to the top of the hill.

5.9 Descending a hill

CAUTION, take care on your first downhill rides until you gain experience. It is not unusual to reach speeds of over 40 mph on steep descents. You will find you can go faster and with much more confidence once you are used to the way the machine handles. Because there is less air drag in the recumbent position you will go faster than a bike. You have powerful brakes with good stopping power.

5.10 Muscles

The first few times you ride your new bike, you will feel the muscles on your legs working harder than you may be accustomed to. This is because pedaling from the recumbent position uses different muscle groups than riding in an upright position. You will find a noticeable improvement in this in a few days, and with a couple of months, you won't notice anything different at all.

When you are riding a recumbent, the best approach is to keep your cadence a little high, even if it means gearing down a little early. One good reason for this is that the recumbent seat allows you to brace yourself when you push on the pedals, and this makes it possible to put large loads into your knees. On an upright bike, if you pushed that hard, you'd lift yourself out of the saddle. Also, try to remember to shift down before you come to a stop; you will find starting off again to be much easier.

5.11 Folding and unfolding the bike

Folding and separating

- Ensure the chain is in top gear (on the smallest sprocket at the back)
- Remove the mudguards (if fitted) by pulling the stays from their sockets.
- Remove the front wheel.
- Release the two lower quick-release clamps holding the seat in place. Release the seat angle quick-release behind the seat. Slide the two clamps under the seat off the main frame seat cup. Remove the seat.
- Remove the back wheel by undoing the quick-release axle and sliding the wheel down out of the dropouts, holding the rear derailleur back out of the way if necessary.
- Hook the chain over the rack mount (the bit of frame that sticks out left and right above the suspension pivot).
- Undo the Velcro retaining strap, then lifting both rear chain tubes up to the lower rack mount; fold the back legs under the frame.
- Fold down the handlebars
- If you want to further reduce the length, release the bolts holding the front boom and either push it in fully, or pull it out completely. It is a good idea to mark the position of the boom with a permanent marker so it can be easily returned to its original position when you reassemble the bike. If you pull it out completely, you will need to unhook the chain from the chain rings.

Reassembly

- Stand the handlebars up.
- Return the front boom to its original position. Either pull out the front boom, or push it back in if you removed it (take care not to damage the thin plastic shim inside the main frame tube). Secure the clamp bolts, and check that they are tight.
- Fold the back legs out from under the frame. Secure the Velcro retaining strap, and unhook the chain.
- Replace the rear wheel. Hold the derailleur mechanism back out of the way if necessary. Ensure the chain is engaged on the smallest sprocket. Secure the quick-release, and check it!
- Replace the rear mudguard and check it is secure.
- Replace the seat. Place the seat on the lower seat cup on the main frame, and slide the seat clamps back over the seat cup. Fasten shut the two quick-releases on the clamps. Hook the top seat support back onto the quick-release behind the seat, then secure and check the quick-release.
- Fit the front wheel and secure the quick-release. Check that it is tight.
- Fit the front mudguards.

6.0 Maintenance

Your ICE B1 has been built from quality materials and parts, and will last for many years with just a bit of simple maintenance. Although there is nothing on the bike that a bike shop can't maintain for you, doing your own basic maintenance gives you a good feel of how your bike is working.

6.1 Lubrication



TIP - as with any cycle, a small amount of regular care will prolong the life of your bike and its components. The simplest thing you can do is to regularly give a quick drop of oil to all of the moving parts especially after riding in heavy rain. Always keep the chain and chain tubes oiled.

Lubricating the Chain

At regular intervals, and always after riding in wet weather, you should lubricate the chain. The chain tubes supplied with your ICE B1 will help keep the oil on the chain by protecting it from rain and dirt, prolonging chain life. Check with your local bike shop to see which chain lube works best in your area. It is not necessary to use a lot of lube on the chain; better to use a little every week than a lot once a month. Wiping the chain down occasionally with a dry cloth will help keep it clean and prolong its life.

Other lubrication

The headset and possibly pedal bearings on your bike will need greasing from time to time depending on riding conditions, the same as any conventional cycle. The plain bearings in the suspension pivot need no lubrication. If they show any significant wear (unlikely), they are simply pushed out and replaced with new ones. The front hub, rear hub, and pulley bearings are pre-lubricated and sealed. If they feel rough or sloppy, they should be replaced.

6.2 Adjusting cables

Cables don't normally need a lot of adjustment. When they are new, they will stretch slightly, and that stretch needs to be adjusted out of the system. Check all cables regularly for signs of damage.

Brake Cables

To adjust the brake cables, turn the adjuster on the brake levers to fine-tune the cable tension. When squeezing the lever, it shouldn't come too close to touching the handlebar grips. If it does, the brake cable may need to be re-fastened at the caliper. When the lever is released, the wheel should turn freely and not drag on the brakes.

Derailleur Cables

These are adjusted in the same way as brake cables. Use the adjusters located at the shifters. Adjustment for the front derailleur is not critical, but correct adjustment is essential for the indexed rear derailleur.

6.3 Disc brakes

The AVID disc brakes require regular attention and maintenance. The most common task is adjusting the disc pads. These will wear under normal use and will require periodic replacement to keep the brakes working properly.

Your disc brakes may squeal under braking. This is normal, and will change depending on how worn the pads are and how damp or cold the rotor is. A brake which is hot and dry will rarely squeal.

The braking performance will be reduced if the system is dirty or lacks lubrication. Clean the calipers, lever, and rotors with water and a clean cloth. If the disc rotor becomes contaminated with oil or grease, it can be cleaned by wiping with a cloth with isopropyl alcohol or disc brake cleaning products designed specifically for disc brakes. It is almost impossible to properly clean contaminated pads; they should be replaced.

Check the caliper and lever for any signs of damage and the cable for any damage such as chaffing or being roughly handled. If you notice a gradual reduction in braking power over a period of time, check the condition of the brake cables and housing. Friction from dirty cables can considerably increase the effort required to stop the bike. A damaged cable will require extra effort to actuate the brake, which can severely impair braking performance or cause the brakes to fail.

Brake pads need replacing when the friction material is worn, contaminated or damaged. Don't wait until the friction material is worn through to the backing plate to replace the pads. To maintain safe and efficient braking, the pads need to be replaced if the material is worn down to 0.5mm.

Replacing Brake Pads – follow the AVID instructions that are supplied with your brakes. Parts and spares are available from ICE.

Troubleshooting

Symptoms	Possible Cause	Corrective Action
Lever goes to the handlebar	Damaged cable Damaged cable housing Brake pads worn out	Replace cable Replace cable housing Replace pads
Spongy Lever	Damaged cable Damaged cable housing	Replace cable Replace cable housing
Disc Rotor rubbing on the Pads	Caliper not adjusted correctly over disc Inadequate clearance Bent rotor	Re-centre the caliper Re-adjust brake pad clearance Replace with new rotor (can sometimes be bent straight)
No braking power	Contaminated pads Worn out pads Contaminated disc	Replace new pads, clean disc with alcohol Replace new pads Clean disc with alcohol
Pads fall out	Missing retaining pin	Replace pin



TIP – periodic removal and lubrication of the brake cables helps increase their life and gives smoother operating brakes. Disconnect them at the wheel, and then a small amount of light oil can be dribbled down the housing without removing the inner cable.



Warning: If you are not confident of servicing your brakes correctly, we strongly recommended that you have a competent cycle mechanic service your disc brake system.

6.4 Drivetrain

The chain pulley on the tension side of the chain will wear over time. Initially it may make a small amount of noise, but within a few weeks it will bed in and run much quieter. A pulley should normally last about 10,000-12,000 miles, but if it shows significant wear, replace it.

Check that your cranks are tight after the first 50 miles of riding. These should be fastened firmly to the bottom bracket, with no play. Even a small amount of movement will cause the joint between the spindle and the hole in the crank to wear, resulting eventually in damage to the chainset.

The rear derailleur idlers tend to collect oil and dirt. Clean them with a dry rag. If they squeak, they can be disassembled and greased. When you lubricate your chain, put a drop of light oil on the moving pivots of the derailleur; they will last much longer.

The more you ride your bike, the more used you become to the sounds it makes. If you notice any change in the sound your bike makes, check it carefully; it may be a sign of something needing attention.

6.5 The frame

The main frame of your ICE B1 is a baked-on finish that is both tough and beautiful. It is possible to damage the coating. If this happens, touch-up paint is available from ICE to repair the damage. Lightly abrade the scrape with fine sandpaper, cover the exposed metal with regular metal primer, and then apply the coloured touch-up paint.

The front boom and rear section of your ICE B1 are anodized. They require little maintenance except for regular cleaning.

Mud, rain, road salt, salt air, and sweat can all affect the finish of your bike. Fitting mudguards will help to keep road dirt off your bike.

Regular cleaning and corrosion protection should be a part of your maintenance routine. We recommend hand washing your bike with warm soapy water and a rag or soft brush. Never use abrasive cleaners or solvents on the powder-coated finish. Rinse well and dry after, and then lubricate the chain.

Do not clean your bike using a pressure washer, as the water will force its way into bearings, removing the grease and causing corrosion.

Keeping the frame dry and clean will keep the coating looking its best for years to come.

If you need to clean the seat mesh, it should be hand-washed in warm soapy water, rinsed well, and hung up to dry. Do not tumble dry!

After the first 50 or 100 miles, check the steering components for signs of looseness. The headset bearing may need to be snugged up after they have bedded in.

After the first ride or two, the clamp bolts should be checked to ensure they are tight.

6.6 Tyres, tubes, & wheels

Tyres

Quality tyres are vital for good traction and control while accelerating, turning and braking. Each brand of tyre has its own individual mix of puncture protection, rolling resistance, pressure rating, and durability. Finding the one that suits your riding style best is the challenge. Tyres should always be inflated according to the range marked on the sidewall, never above the maximum recommended, and they should be checked regularly. Worn tyres should be replaced. Lower pressure results in a more comfortable ride, but at the expense of higher rolling resistance. Balloon tyres are now available that combine relatively low rolling resistance, puncture protection, and a smooth ride; they are well worth considering. Your ICE B1 has been designed to allow these larger tyres to be fitted.

Appendix C has a conversion table for pressure in PSI and Bar.

Tubes & Punctures

Always use good quality inner tubes on your bike. It is easiest to carry a spare inner tube with you, and change it if you should be unlucky enough to have a puncture.

Spokes

Occasionally check for loose spokes. Broken spokes are caused by spokes loosening up, and then undergoing stress every time they take a load. If you notice loose (or broken) spokes, or an untrue wheel, take your bike to your local bike shop to have the wheels re-trued. One loose spoke puts an unfair load on the spokes next to it, and one broken spoke is usually followed by another.

6.7 Suspension

The suspension on the ICE B1 bikes runs on plain bearings. These bearings are made from a copper-plated steel shell, coated with a sintered bronze layer filled with a mixture of PTFE and other friction-reducing additives. They do not normally require lubrication or maintenance. If you should notice any significant amount of play in the suspension joint, the bearings can be easily replaced. To do this:

- Undo the 2 pivot pin clamp bolts under the suspension mount.
- Slide the pivot pin out of the bearings. If it is reluctant to slide, tap gently using a hammer and a small block of wood to move the pin.
- Using the hammer and small block of wood, gently remove the suspension bearings. There are three separate bearings to be removed; note the order they came out in.
- Gently push or tap the new bearings into place. Be careful not to damage the Teflon coating on the bearings.
- Press the pivot pin back into place, and tighten the 2 pivot pin clamp bolts.

6.8 Storage

If you are using the bike most days, it is best to store it somewhere dry and well ventilated. A damp, covered bike will quickly develop surface corrosion of its components, and eventually, the frame. If you are storing your bike for any considerable period (over winter or a long holiday):

- Clean the bike and lubricate.
- Store the bike indoors where it will be dry. Hanging storage is good. Outdoor storage under cover is acceptable if there is good air circulation around the bike. Outdoors under a tarpaulin will actually accelerate any corrosion and can damage the paintwork and components.
- Set the gears to the smallest sprocket and chainring. This keeps the derailleur springs and cables under minimum tension.
- Ensure the tyres are properly inflated before storing the bike, and check them every month or two. Storing a bike on soft or deflated tyres is not recommended.
- Before putting the bike back into service, go through all the maintenance and adjustment instructions in this manual to ensure the bike is working properly.

6.9 Serial Number

The serial number is marked on a sticker affixed to the frame under the seat mount.

6.10 Recommended minimum tools and spares

Get you home kit

- Tyre levers
- Spare inner tube
- Puncture repair kit
- Mini Pump
- Small adjustable spanner
- 3, 4, 5, 6mm Hex Keys
- Small Phillips screwdriver
- Spare Chain link
- Chain tool

Full Touring Kit

- the 'Get you home kit' plus at least these items:

- 8mm spanner.
- 9mm spanner.
- 10mm spanner.
- 19mm spanner.
- 8mm Hex Key (for the chainset).
- Spare gear cable.
- Spare brake cable.

7.0 Safety



Between all of us here at ICE, we've ridden thousands of miles on bikes, and we've all developed good road sense. The following safety considerations are for your benefit; please give them serious consideration:

- We recommend always wearing an approved cycling helmet. Get the best you can afford. If you've got cheap head, get a cheap helmet!
- We highly recommend the use of 'clipless' pedals. Shimano's SPD system is a good choice, and there are many SPD compatible shoes and pedals on the market. Most cycling shoes will come with the necessary fittings to allow cleats to be fitted, and the only other thing that you'll need is a set of pedals. Pedals are available with cleat bindings on one side and a standard platform on the other (allowing you to go for a quick spin without having to change into your cycling shoes). For those that have not experienced clipless pedals, they have a small binding mechanism built into the pedal, which locks onto a cleat fastened to the bottom of the shoe. It works in a similar fashion to a ski boot binding. To lock your foot in, you hook the cleat into the binding and push. To remove your foot, you twist your heel sideways and the binding releases the cleat. Once you are clipped in, you will not need to put your feet down until you want to get off; being clipped in is comfortable, lets your legs relax when you are not pedaling, and allows power to be transferred more effectively to the pedals. It takes some practice to get in and out of the pedals while riding a 2-wheeler. There is a tension adjustment on each pedal, and these should be loosened (see the instructions that came with the pedals) until you are comfortable with releasing your feet.
- Check your bike before each ride. In particular, check the tyres and brakes to ensure they are in good working order.
- If you are riding at night, make sure you have a legal white headlight and a red taillight. We recommend using both non-flashing and flashing LED taillights in tandem. The flashing light is very noticeable at a great distance, and the non-flashing light is better for other road users to judge your distance from them with.
- Use your rear view mirror, but don't rely on it. You must also turn your head to check behind you before turning or changing lanes.
- Be careful of carrying too much speed into corners. Although the bike is capable of high speeds in corners, a loose or irregular surface can quickly cause problems and even cause you to crash. As you ride more, you will gradually learn what the limits of the bike are.
- Be careful of downhill speeds. It is very easy to reach speeds in excess of 40 mph (60kph) when going downhill. Although you may feel in perfect control, be wary of and allow for road hazards and other road users doing stupid things.
- The disc brakes rotors can get hot after long descents. You can burn yourself on the hot surfaces.
- The usual practice is to brake evenly using both hands. You can brake at the maximum rate with the front brake only. Violent braking of the rear wheel will cause it to lock up and skid.
- Use a flag. Most road users haven't ever seen anything like your bike, and will give you much more attention and room on the road than they would a standard upright bike. However, some road users are all but brain-dead and using the flag will help to ensure you've been seen, especially in heavy traffic. You are lower than an upright bike, and reversing cars may not be able to see you. Ride defensively, as if you were invisible.
- Consider bright visible clothes. They make good sense regardless of what you are riding.
- You might consider fitting a horn. The 'AirZound' is a lightweight air horn, charged with your bicycle pump, and it is LOUD! It is available from most good bike shops.
- Although you are far more noticeable than any other cycle, motorists will almost always underestimate the speed of an approaching bike. They just don't seem to understand how fast you can be traveling. Be wary of cars which assume you are 'slow' and pull out in front of you with little warning. Also be wary of cars overtaking you close to a junction. They will often misjudge the space they have to get in front of you, and are rarely certain of what to do once they've realized their mistake.
- Like any other cycle, try not to ride close to parked cars. Drivers can fling open a door or pull out suddenly.
- Don't ride close to the edge of the road. Rubbish tends to collect there and your tyres are at a greater risk of picking up a puncture. As your bike is somewhat unusual looking, some road users will not know quite what to make of you. If you move out a little into the road, it is less likely that drivers will try to force their way past. Likewise, pay attention to timid drivers that refuse to overtake you. Pulling to the side to let the queue pass will earn you the respect of other road users.

8.0 Other Important Information

8.1 Recumbent/Bike forums on the Internet

Now that you have your new bike, why not share your experiences with others on some of the internet forums?

TRICE Owners List

New for 2008, there is an online Trice Owners group. Run by Trice owners, it's the first place to go to discuss riding, maintenance, or anything else Trice. There's likely to be a healthy interest in the B1. It can be found at: <http://sports.groups.yahoo.com/group/triceriders/>

IHPVA Lists

There is a bikes specific mailing list run by the IHPVA (International Human Powered Vehicle Association). The list generates one or more emails daily (in digest mode). You can subscribe to the bikes mailing list at <http://bikelist.org/mailman/listinfo/bikes>

The same page will also let you unsubscribe and change your subscription options.

Bent Rider Online

The BentRiderOnline website is a valuable source of information. They operate a message board (forum) that is moderated and is free to join. You will need to register before you can post a message, but the forum is available for anyone to read. To register, point your browser to www.bentrideronline.com and click on the 'Message Board' link at the top of the page. On this new page, you will find links to the FAQ (Frequently Asked Questions) and the registration page. Follow the simple instructions and you will be registered to participate in the discussion. There is a Bikes specific forum under Specialty Discussions, and you will find a number of ICE B1 owners there.

VeloVision

VeloVision is a magazine, published in the UK, covering specialised bikes, cycling as transport and human power. We'd have to agree when they say "It's a quarterly dose of cycle inspiration." To get to the forum, point your browser to <http://www.velovision.co.uk/forum/>

Follow the link to 'VV discussion'. To register, click on the 'Log In' link and then follow the link to 'Need a Login? Register Here'. The registration is painless and allows you to post on the forum. This forum is not arranged by subject, but just has a list of the topics presently under discussion.

uk.rec.cycling

uk.rec.cycling is an un-moderated Usenet group. This is a friendly gathering of enthusiasts who discuss a wide range of subjects, usually related to cycling in the UK. There are a number of recumbent riders and bike owners who are regular contributors to the group. To join the group, you will have to set up a Usenet (News) account with your Internet Service Provider. This is usually free. Your provider will be able to provide you the details of how to configure your email software to access the group. Alternatively, you can access the group through the Google search engine page. Point your browser to <http://groups.google.com/group/uk.rec.cycling> and read the posts at your leisure. You can post to the group if you follow the Google Groups registration process.

Recumbent and Tandem Rider

R&TR Magazine is the world's only magazine dedicated to the riders and enthusiasts of tandem and recumbent bicycles. Each issue has bike and equipment reviews, riding tips, travel stories, technical advice and maintenance ideas. Available by subscription for doorstep delivery, or for FREE at many US bike shops. More information can be found at <http://www.rtrmag.com/>

British Human Power Club

The British Human Power Club was formed to foster all aspects of human-powered vehicles for competition, recreation and utility activities. The majority of the Club's activities revolve around land vehicles, which are usually, though not necessarily, recumbent bicycles or tricycles. They run an annual race series for non-UCI-approved machines, usually some 8-10 events. Every six (at present) years, they also host the annual European Championships. If you're not competitively inclined, the race meetings are still good places to meet and socialize with fellow enthusiasts, and to try out people's strange machines.

In addition to the race series, they also organize touring weekends in interesting parts of the country. The club publishes the quarterly "BHPC Newsletter", to keep one abreast of what's happening in the Club and the big wide world of Human-Powered transportation. They have an informative website and public forum at www.bhpc.org.uk

8.2 Warranty Information

Warranty

Inspired Cycle Engineering warrants, to the original owner of each new ICE B1 bicycle that the frame, seat, and steering components are free of defective materials and workmanship for three (3) years from original date of purchase. Component parts are limited to one (1) year from original date of purchase. Warranty is conditional upon the bike being operated under normal conditions and being properly maintained. Warranty is offered to the original owner only, and is not transferable. This warranty does not apply to:

- damage through normal wear and tear
- neglect (inadequate care and maintenance)
- damage from crashes or jumping
- overloading through excess weight
- incorrect assembly
- modifications to the bike (additional or changed components)
- theft
- use as a power driven vehicle
- failure to follow instructions or warnings in the owner's manual
- Activities for which they were not designed.

Bending of frames, forks, handlebars, seat posts or wheel rims can be a sign of misuse or abuse.

Inspired Cycle Engineering reserves the right to make sole determination of whether any failure or damage claimed under warranty was caused by material or manufacturing defect, and reserves the sole discretion to repair or replace any parts covered by this warranty.

The owner shall be responsible for all labour, shipping, and travel costs connected with the repair or replacement of warranted parts. Inspired Cycle Engineering will, at our sole discretion, normally consider compensation for reasonable labour, shipping, and travel costs associated with warranty claims.

Inspired Cycle Engineering shall in no event be liable for incidental or consequential losses, damages or expenses in connection with its bicycle products.

In practice, if you think you have a warranty claim, contact your dealer or us. We are passionate about our product, and want you to be too. If it is our problem, then we do our best to put it right.

8.3 Liability Information

Liability Waiver:

Taking part in any sporting activity can result in injury or death. Cycling is no different in this regard, and recumbent bicycles no different from upright bicycles. In many ways, recumbent bikes can be much safer than a standard bicycle. Nevertheless, the rider (that's you) is expressly assuming the risk for any injury and/or property damage that may result from using our product, as well as for any and all injuries and/or property damages caused by someone riding your bike.

We have no control over how the bike is used or maintained. It's your bike; it is up to you to be responsible for yourself. You need to ensure that the bike is safe each time before you ride it. You need to ensure that it is maintained to a proper standard. Read and understand this manual; it has warnings and suggestions that will help you to use the bike safely. If you are in any doubt about any of the advice or procedures in this manual, please contact your dealer or ICE. It is up to you to know and obey traffic laws of the country or state where you will be riding your bike. Pedal cycles are regarded in most countries as vehicles when on the road and are subject to the same rules as motor vehicles. If you are not comfortable on the road, or have little experience riding in traffic, try practicing riding on quieter streets, at least until you develop the necessary skills and road awareness. Many bike shops can offer instruction on advanced riding techniques. Inspired Cycle Engineering shall in no event be liable for incidental or consequential losses, damages or expenses in connection with its bicycle products.

8.4 Legal requirements

Legal requirements vary from country to country and you should always comply with them.

The important areas you need to consider are lighting, and helmet use. Consult your local bike dealer for information about what is required in your area. Please also remember that even if not required by law, some equipment (such as helmets and lights) can increase your personal safety and should be carefully considered.

8.5 Contacting us

Your first point of contact should be your local dealer. They will be able to answer most of your questions and can provide you with the full line of ICE B1 accessories. If you need to speak to us directly, we can be contacted in a number of ways:

In person or by post

Inspired Cycle Engineering Ltd
Unit 9,
Tregoniggie Industrial Estate,
FALMOUTH,
Cornwall TR11 4SN
England

Telephone & FAX:

01326 378848 (+44-1326-378848 outside UK)

e-mail:

sales@ice.hpv.co.uk

Website:

www.ice.hpv.co.uk

Skype:

inspired_cycle_engineering_ltd

Manual Revision: 18 September 2008

This manual is composed using 9pt Verdana, a British-designed font which is renowned for its excellent readability.

Appendix A: Tightening torques

Fastener	Uses Hex Key (mm)	nm	Lb-ft
Front derailleur clamp bolt	5	5-7	4-5
Front derailleur cable clamp bolt	5	5-7	4-5
Chainset - central crank bolt	8	35-50	25-36
Chainset - chainring bolt	5 + tool	8-10	6-7
Chainring guard bolt	5	6-8	4.5-6
Main frame clamp bolts	5	8-10	6-7
Handlebar clamps	5	5	4
Twist-grip clamp bolt (hex key)	3	1-2	1-2
Brake lever clamp bolt	5	6-8	4.5-6
Mirror	3	3-5	2.5-4
Pivot pin clamp bolts	5	6-8	4.5-6
Shock pin	10mm spanner	5-7	4-5
Disc brake caliper mount	5	6-8	4.5-6
Disc brake rotor bolts	T-25	6 -7	4.5-5
Rear mech hanger	5	8-10	6-7
Rear derailleur mounting bolt	5	8-10	6-7
Rear derailleur Cable clamp bolt	5	5-7	4-5
Upper seat mount clamp bolts	4	5-7	4-5
Head rest clamps	4	5-7	4-5
Headrest clamp pin	5	5-7	4-5

All other M4 bolts, tighten to 5-6 nm (4-5 lb-ft)

All other M5 bolts, tighten to 6-8 nm (4.5-6 lb-ft)

All other M6 bolts, tighten to 8-10 nm (6-7 lb-ft)

Appendix B: Elastomer limits

Rider weight

60-125 lbs (4-9 stone, 27-57 kg)

125-200 lbs (9-14 stone, 57-91 kg)

200-250 lbs (14-18 stone, 91-114 kg)

Elastomer

Yellow

Red

Green

Your elastomer will also depend on your riding style, terrain and other factors. If you ride on rough terrain or ride aggressively, you may benefit from a harder elastomer. If you are a leisurely rider, who riders predominantly on smooth tarmac, you may be able to use a softer elastomer.

Note: you may need an elastomer that is one grade harder if you are carrying any significant load. Elastomers are stiffer at lower temperatures, and you may find you prefer to change to a softer elastomer in cold weather. Two elastomers can be fitted side-by-side if necessary.

Appendix C: Tyre Pressures

PSI	BAR	PSI
	2	29.0
30	2.1	
	2.5	36.3
40	2.8	
	3	43.5
50	3.4	
	3.5	50.8
	4	58.0
60	4.1	
	4.5	65.3
70	4.8	
	5	72.5
80	5.5	80.0
	6	87.0
90	6.2	
	6.5	94.3
100	6.9	
	7	101.5
	7.5	108.8
110	7.6	
	8	116.0
120	8.3	
	8.5	123.3
130	9.0	130
	9.5	137.8
140	9.7	